1. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

   More than 3 units from the number -8.

   A. $(-\infty, -11) \cup (-5, \infty)$

   B. $[-11, -5]$

   C. $(-11, -5)$

   D. $(-\infty, -11] \cup [-5, \infty)$

   E. None of the above

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2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

   $$-10x - 6 > 5x + 8$$

   A. (a, ∞), where $a \in [-2.97, 0.39]$

   B. $(-\infty, a)$, where $a \in [-2.93, 0.07]$

   C. (a, ∞), where $a \in [0.36, 1.26]$

   D. $(-\infty, a)$, where $a \in [0.93, 5.93]$

   E. None of the above.

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3. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

   $$-8 - 9x < \frac{-30x - 3}{8} \leq 9 - 4x$$

   A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-0.75, 2.25]$ and $b \in [-38.25, -31.5]$

   B. $(a, b]$, where $a \in [0.75, 3]$ and $b \in [-38.25, -36]$

   C. $(-\infty, a] \cup (b, \infty)$, where $a \in [1.2, 4.58]$ and $b \in [-39.75, -36]$

   D. $[a, b)$, where $a \in [0, 3]$ and $b \in [-38.25, -33.75]$

E. None of the above.

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4. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$7 - 6x \leq \frac{-40x - 6}{9} < 5 - 5x$$

A. $(a, b]$, where $a \in [-8.25, -1.5]$ and $b \in [-12, -6.75]$

B. $(-\infty, a] \cup (b, \infty)$, where $a \in [-9, 1.5]$ and $b \in [-10.5, -8.25]$

C. $(-\infty, a) \cup [b, \infty)$, where $a \in [-5.25, 0]$ and $b \in [-12, -8.25]$

D. $[a, b)$, where $a \in [-9, -2.25]$ and $b \in [-12, -8.25]$

E. None of the above.

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5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{9}{2} + \frac{4}{3}x \leq \frac{9}{6}x + \frac{4}{5}$$

A. $[a, \infty)$, where $a \in [-23.25, -19.5]$

B. $[a, \infty)$, where $a \in [21, 23.25]$

C. $(-\infty, a]$, where $a \in [-24, -21]$

D. $(-\infty, a]$, where $a \in [20.25, 24.75]$

E. None of the above.

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6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-4 + 4x > 5x \text{ or } -6 + 9x < 12x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-0.75, 5.25]$ and $b \in [-0.75, 8.25]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-6, -2.25]$ and $b \in [-9.75, -0.75]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.25, 6]$ and $b \in [3, 7.5]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.25, -0.75]$ and $b \in [-3.75, -1.5]$

E. $(-\infty, \infty)$

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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-10}{4} - \frac{10}{9}x \leq \frac{-5}{8}x - \frac{5}{7}$$

A. $[a, \infty)$, where $a \in [-7.5, 0]$

B. $[a, \infty)$, where $a \in [3, 5.25]$

C. $(-\infty, a]$, where $a \in [1.5, 6]$

D. $(-\infty, a]$, where $a \in [-4.5, -2.25]$

E. None of the above.

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8. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$7 + 5x > 6x \text{ or } 9 + 9x < 10x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-12.75, -4.5]$ and $b \in [-7.5, -3]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-14.25, -6]$ and $b \in [-10.5, -3]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [4.5, 9]$ and $b \in [6.75, 10.5]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [2.25, 9]$ and $b \in [6.75, 12.75]$

E. $(-\infty, \infty)$

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9. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

More than 10 units from the number -9.

A. $(-\infty, -19) \cup (1, \infty)$

B. $(-\infty, -19] \cup [1, \infty)$

C. $[-19, 1]$

D. $(-19, 1)$

E. None of the above

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10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-10x + 7 \leq 5x - 10$$

A. $[a, \infty)$, where $a \in [-2, -0.8]$

B. $(-\infty, a]$, where $a \in [-1.7, -1]$

C. $[a, \infty)$, where $a \in [-1.1, 3.8]$

D. $(-\infty, a]$, where $a \in [0.4, 1.4]$

E. None of the above.
